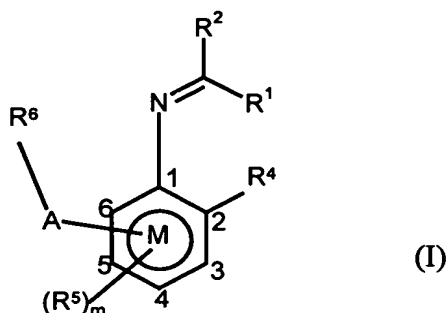


Claims

1. A compound of general formula I and salts thereof as fungicides



wherein

- R^1 and R^2 , which may be the same or different, are chosen from among alkyl, acyl, cyano, alkoxycarbonyl, aminocarbonyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, each of which may be substituted, and hydrogen;
- or
- R^2 and R^1 , together with their interconnecting atoms may form a ring, which may be substituted;
- R^4 is chosen from among alkyl, alkenyl, alkynyl, carbocyclyl, heterocyclyl, each of which may be substituted; hydroxy; mercapto; azido; nitro; halogen; cyano; acyl; optionally substituted amino; cyanato; thiocyanato; $-SF_5$; $-OR^a$; $-SR^a$ and $-Si(R^a)_3$, where R^a is alkyl, alkenyl, alkynyl, acyl, carbocyclyl or heterocyclyl, each of which may be substituted;
- m is 0 to 3;
- when present R^5 , which may be the same or different to any other R^5 , is any group defined for R^4 ;
- R^6 is optionally substituted carbo- or heterocyclyl; and
- A is a direct bond, $-O-$, $-S(O)_n-$, $-NR^9-$, $-CR^7=CR^7-$, $-C\equiv C-$, $-A^1-$, $-A^1-A^1-$, $-O-(A^1)_k-O-$, $-O-(A^1)_k-$, $-A^3-$, $-A^4-$, $-A^1O-$, $-A^1S(O)_n-$, $-A^2-$, $-OA^2-$, $-NR^9A^2-$, $-OA^2-A^1-$, $-OA^2-C(R^7)=C(R^8)-$, $-S(O)_nA^1-$, $-A^1-A^4-$, $-A^1-A^4-C(R^8)=N-N=CR^8-$, $-A^1-A^4-C(R^8)=N-X^2-X^3-$, $-A^1-A^4-A^3-$, $-A^1-A^4-N(R^9)-$, $-A^1-A^4-X-CH_2-$, $-A^1-A^4-A^1-$, $-A^1-A^4-CH_2X-$, $-A^1-A^4-C(R^8)=N-X^2-X^3-X^1-$, $-A^1-X-C(R^8)=N-$, $-A^1-X-C(R^8)=N-N=CR^8-$, $-A^1-X-C(R^8)=N-N(R^9)-$, $-A^1-X-A^2-X^1-$, $-A^1-O-A^3-$, $-A^1-O-C(R^7)=C(R^8)-$, $-A^1-O-N(R^9)-A^2-N(R^9)-$, $-A^1-O-N(R^9)-A^2-$, $-A^1-N(R^9)-A^2-N(R^9)-$,

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Case

~~-A¹-N(R⁹)-A²-, -A¹-N(R⁹)-N=C(R⁸)-, -A³-A¹-, -A⁴-A³-, -A²-NR⁹-,
-A¹-A²-X¹-, -A¹-A¹-A²-X¹-, -O-A²-N(R⁹)-A²-, -CR⁷=CR⁷-A²-X¹-,
-C≡C-A²-X¹-, -N=C(R⁸)-A²-X¹-, -C(R⁸)=N-N=C(R⁸)-, -C(R⁸)=N-N(R⁹)-,
-(CH₂)₂-O-N=C(R⁸)- ou -X-A²-N(R⁹)-~~

where:

- n is 0, 1 or 2,
 - k is 1 to 9,
 - A¹ is -CHR⁷-,
 - A² is -C(=X)-,
 - A³ is -C(R⁸)=N-O-,
 - A⁴ is -O-N=C(R⁸)-,
 - X is O or S,
 - X¹ is O, S, NR⁹ or a direct bond,
 - X² is O, NR⁹ or a direct bond,
 - X³ is hydrogen, -C(=O)-, -SO₂- or a direct bond,
 - R⁷, which may be the same or different to any other R⁷, is alkyl, alkenyl, alkynyl, cyano, acyl, hydroxy, alkoxy, haloalkoxy, alkylthio, cycloalkyl or phenyl, each of which may be substituted; or is hydrogen or halogen;
 - R⁸, which may be the same or different to any other R⁸, is alkyl, alkenyl, alkynyl, alkoxy, alkylthio, carbo- or hetero-cyclyl, each of which may be substituted; or is hydrogen;
 - R⁹, which may be the same or different to any other R⁹, is optionally substituted alkyl, optionally substituted carbo- or hetero-cyclyl, hydrogen or acyl; or two R⁹ groups on A, together with the connecting atoms, form a 5 to 7 membered ring;
- where the moiety depicted on the right side of linkage A is attached to R⁶;
or -A-R⁶ and R⁵ together with benzene ring M form an optionally substituted fused ring system.

2. A compound according to claim 1 wherein R¹ is alkyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydrogen.

3. A compound according to claim 2 wherein R¹ is alkyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or

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phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or halogen, or is hydrogen.

4. A compound according to any preceding claim wherein R^1 is C_1 - C_{10} alkyl
5 or hydrogen.

5. A compound according to any preceding claim wherein R^1 is methyl or hydrogen.

10 6. A compound according to any preceding claim wherein R^2 is alkyl, acyl, alkoxy, aminocarbonyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl, or is hydrogen or alkylcarbonyl.

15 7. A compound according to any preceding claim wherein R^2 is alkyl, acyl, alkoxy, aminocarbonyl, alkenyl or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or by halogen, or is hydrogen or alkylcarbonyl.

20 8. A compound according to any preceding claim wherein R^2 is C_1 - C_{10} alkyl or hydrogen.

25 9. A compound according to any preceding claim wherein R^2 is methyl or hydrogen.

30 10. A compound according to any preceding claim wherein R^4 is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydroxy; halogen; cyano; acyl; alkoxy; haloalkoxy; or alkylthio.

35 11. A compound according to any preceding claim wherein R^4 is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or halogen; or is hydroxy; halogen;

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cyano; acyl; alkoxy; haloalkoxy; or alkylthio.

12. A compound according to any preceding claim wherein R^4 is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydroxy; halogen; cyano; $-C(=O)R^c$, $-C(=S)R^c$ or $-S(O)_pR^c$, where R^c is alkyl, haloalkyl, alkoxy, haloalkoxy, alkylthio, amino, monoalkylamino, dialkylamino or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio; or phenyloxy, phenylthio, carbocyclyl, heterocyclyl; alkoxy; haloalkoxy; or alkylthio.
13. A compound according to any preceding claim wherein R^4 is C_1 - C_{10} alkyl or halogen.
14. A compound according to any preceding claim wherein R^4 is methyl or ethyl or halogen.
15. A compound according to any preceding claim wherein m is 0 or 1.
16. A compound according to any preceding claim wherein, when present, R^5 is a group defined for R^4 in either of claims 10 to 14.
17. A compound according to any preceding claim wherein, when present, R^5 is attached at the 5 position of ring M.
18. A compound according to any preceding claim wherein A is a direct bond, $-O-$, $-A^1-$, $-S(O)_nA^1-$, $-O(A^1)_k-$, $-S(O)_n-$, $-NR^9A^2-$, $-A^2-$, $-OA^2-$, $-OA^2-A^1-$, $-NR^9-$ or $-O(A^1)_kO-$.
19. A compound according to any preceding claim wherein A is a direct bond, $-O-$, $-S-$, $-NR^9-$, $-CHR^7-$ or $-O-CHR^7-$.
20. A compound according to any preceding claim wherein A is a direct bond or $-O-$.

21. A compound according to any preceding claim wherein, when present, R⁹ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydrogen.

5 22. A compound according to any preceding claim wherein, when present, R⁹ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or halogen; or is hydrogen.

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23. A compound according to any preceding claim wherein, when present, R⁹ is C₁-C₁₀ alkyl or hydrogen.

15 24. A compound according to any preceding claim wherein, when present, R⁷ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or optionally substituted phenyl; or is hydroxy; halogen; cyano; acyl; alkoxy; haloalkoxy; alkylthio; or hydrogen.

20 25. A compound according to any preceding claim wherein, when present, R⁷ is alkyl, alkenyl, or alkynyl, each of which may be substituted by alkoxy, haloalkoxy, alkylthio, halogen or phenyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio, each containing 1 to 5 carbon atoms, or by halogen; or is hydroxy; halogen; cyano; acyl; alkoxy; haloalkoxy; alkylthio; or hydrogen.

25 26. A compound according to any preceding claim wherein, when present, R⁷ is C₁-C₁₀ alkyl or hydrogen.

27. A compound according to any preceding claim wherein A is attached to the 4 position of benzene ring M.

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28. A compound according to any preceding claim wherein R⁶ is optionally substituted aromatic heterocyclyl.

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29. A compound according to any preceding claim wherein R⁶ is optionally substituted thiazolyl, isothiazolyl, thiadiazolyl, pyridyl or pyrimidinyl.

5 30. A compound according to any preceding claim wherein R⁶ is optionally substituted 1,2,4-thiadiazolyl.

10 31. A compound according to any preceding claim wherein when substituted, R⁶ may be substituted by one or more substituents, which may be the same or different, and may be selected from the list: alkyl, alkenyl, alkynyl, carbo- or heterocyclyl, each of which may be substituted; hydroxy; mercapto; azido; nitro; halogen; cyano; acyl; optionally substituted amino; cyanato; thiocyanato; -SF₅; -OR^a; -SR^a and -Si(R^a)₃, where R^a is alkyl, alkenyl, alkynyl, carbocyclyl or heterocyclyl, each of which may be substituted.

15 32. A compound according to claim 31 wherein when substituted, R⁶ may be substituted by one or more substituents, which may be the same or different, and may be selected from the list: hydroxy; halogen; cyano; acyl; amino; alkylamino; dialkylamino; alkyl; haloalkyl; R^aO-alkyl; acyloxyalkyl; cyano-oxyalkyl; alkoxy; haloalkoxy; alkylthio; carbocyclyl, optionally substituted by alkyl, haloalkyl, alkoxy, 20 haloalkoxy or alkylthio; and benzyl optionally substituted by alkyl, haloalkyl, alkoxy, haloalkoxy or alkylthio.

25 33. The use of a compound according to any preceding claim and salts thereof as fungicides.

34. A fungicidal composition comprising at least one compound as claimed in any one of claims 1 to 32 in admixture with an agriculturally acceptable diluent or carrier.

30 35. A method of combating fungi at a locus infested or liable to be infested therewith, which comprises applying to the locus a compound as claimed any one of claims 1 to 32.

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